

effect, making it almost impossible in normal lighting to distinguish the two components. In each case very little blue coloration was added; no more than ten drops blue per 20 mls or so of phosphor or dielectric.

[0104] More specifically, a specific instance of the coloration was effected in the following manner:

[0105] The normal appearance of the Dupont 8164 phosphor (which emits bright green light) is a bright creamy white, while the normal appearance of the Dupont 7153 dielectric is a strongly-contrasting grey white. First, to reduce this contrast both were coloured with Solvent Blue dye (Stamps Direct's Ink X2 permanent Marking ink) – 10 drops in 20 mls of phosphor and 20 drops in 20 mls ceramic dielectric. These concentrations were so low that the cured phosphor was barely tinted, while the cured ceramic was a very pale chalk blue.

[0106] Perhaps counterwhen the pale blue ceramic was added behind the lightly tinted phosphor the apparent contrast of the phosphor was in fact significantly increased compared with an undyed control.

[0107] Surprisingly, when a display made using materials coloured in this manner was overlayed with a blue filter (Ultramark 575/T134402) the apparent contrast was reduced to little or nothing; it was hard if not impossible under normal light to distinguish the phosphor from its dielectric surroundings.

Claims

[c1]

1. An electroluminescent display of the type wherein a layer of electroluminescent material is sandwiched between but spaced from two electrode layers, and the electroluminescent material is composed of a plurality of separate areas each matching in shape and size the image which the relevant portion of the display is to show, each such area being surrounded by a layer of insulating material, in which display the colour/reflectivity of one and/or another of the electroluminescent material and the surrounding insulator material is modified – or is apparently modified – so as to match that of the other.

[c2]

2. A display as claimed in Claim 1 which uses, as the electroluminescent material, a particulate phosphor.

[c3]

3. A display as claimed in Claim 2, wherein the particulate phosphor is zinc sulphide in the form of encapsulated particles.

[c4]

4. A display as claimed in any of the preceding Claims, wherein the separately-activatable individual areas are grouped into sets of related character-defining segments each group of which can, by the activation of the appropriate segments, define any character there to be displayed.

[c5]

5. A display as claimed in Claim 4, wherein each group is the standard seven-segment group commonly employed in modern electrical and electronic displays.

[c6]

6. A display as claimed in any of the preceding claims, wherein, to modify the colour/reflectivity of one or other (or both) of the electroluminescent material/phosphor and the surrounding dielectric material (the ceramic/insulator) to match - or appear to match - that of the other, the colour/reflectivity of the chosen material is changed to match that of the other by the material being blended with suitable colouring materials to give a colour match to the other, the match applying while the phosphor is in its "off" (unactivated) state.

[c7]

7. A display as claimed in Claim 6, wherein the colour/reflectivity of each of the phosphor material and the insulating material is modified so as more closely to match each other, the phosphor material being blended with a material of one suitable colour while the insulating material is also be blended with a material of a suitable colour.

[c8]

8. A display as claimed in any of Claims 1 to 5, wherein, to modify the colour/reflectivity of one or other (or both) of the electroluminescent material /phosphor and the surrounding dielectric material (the ceramic/insulator) to match - or appear to match - that of the other, there is formed between the substrate and the insulator layer an additional layer of suitably-coloured material so as effectively to mask the insulator layer from view and thus present the impression of a continuous layer when the combination is viewed through the transparent electrode.

[c9]

9. A display as claimed in any of the preceding Claims, wherein, to modify the colour/reflectivity of one or other (or both) of the electroluminescent material/phosphor and the surrounding dielectric material (the ceramic/insulator) to match - or appear to match - that of the other, the display is provided with a front filter/absorber layer - an